UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/694,731	10/23/2000	Barrie Gilbert	1482-138	3741

20575 7590 06/02/2004

MARGER JOHNSON & MCCOLLOM PC
1030 SW MORRISON STREET
PORTLAND, OR 97205

EXAMINER	
TRA, ANH QUAN	

ART UNIT	PAPER NUMBER
2816	

DATE MAILED: 06/02/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

UNITED STATES PATENT AND TRADEMARK OFFICE

COMMISSIONER FOR PATENTS
UNITED STATES PATENT AND TRADEMARK OFFICE
P.O. BOX 1450
ALEXANDRIA, VA 22313-1450
www.uspto.gov

BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

Paper No. 15

Application Number: 09/694,731
Filing Date: October 23, 2000
Appellant(s): GILBERT, BARRIE

Joseph S. Makuch
For Appellant

EXAMINER'S ANSWER

This is in response to the appeal brief filed 09/08/2003.

(1) Real Party in Interest

A statement identifying the real party in interest is contained in the brief.

(2) Related Appeals and Interferences

A statement identifying the related appeals and interferences which will directly affect or be directly affected by or have a bearing on the decision in the pending appeal is contained in the brief.

(3) Status of Claims

The statement of the status of the claims contained in the brief is correct.

(4) Status of Amendments After Final

The appellant's statement of the status of amendments after final rejection contained in the brief is correct.

(5) Summary of Invention

The summary of invention contained in the brief is correct.

(6) Issues

The appellant's statement of the issues in the brief is correct.

(7) Grouping of Claims

The rejection of claims 1, 3, 5-7 and 15 stand or fall together because appellant's brief does not include a statement that this grouping of claims does not stand or fall together and reasons in support thereof. See 37 CFR 1.192(c)(7).

(8) Claims Appealed

The copy of the appealed claims contained in the Appendix to the brief is correct.

(9) Prior Art of Record

4250457	Hofmann	02-1981

(10) Grounds of Rejection

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. Claims 1, 3, 5-7 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hofmann (USP 4250457).

As to claim 1, Hofmann discloses in figures 1 and 2 a method for operating transistor cell comprising: an input terminal (node between 38 and 16) for receiving an input signal, an output terminal (node between 14 and 16) for transmitting an output signal, a grounded base transistor (16) coupled between the input and output terminals, and a current mirror (32, 38) coupled between the input and output terminals, the method comprising biasing the transistor cell (28, 30 or 40, 42) to establish a bias current in the grounded base transistor and the current mirror when the input signal is zero. Thus, figure 1 shows all steps of the method of claim 1 with the exception of the step of limiting the input signal to a range in which the output function of the transistor cell approximates a square-law. However, Hofmann further provides an equation at column 5, lines 15-18 that teaches when the input signal is relatively small, the cell substantially provides a square-law output, and when the input signal is relatively large, the cell provides a linear function (see the graph in figure 3). Although Hoffman does not explicitly discuss the use

of a relatively small input signal, it is quite clear from the teaching of Hofmann that the circuit will function to provide such a square law output. Therefore, it would have been obvious to one having ordinary skill in the art to limit the input signal of Hofmann to be relatively small for the purpose of providing output function of the cell that approximates a square law as taught by the equation at column 5 to the related circuit figures 1 and 2.

As to claim 3, figure 2 teaches adjusting the bias current (by temperature), thereby adjusting the input impedance cell.

As to claim 5, figure 1 shows the current mirror is coupled to a power supply terminal (ground); and biasing the transistor cell includes maintaining the base of the grounded base transistor at about 2VBE from the voltage of the power supply terminal.

As to claim 6, figure 2 teaches isolating the current mirror from the output terminal (by transistor 16 and 43).

As to claim 7, figure 2 teaches isolating the current mirror includes coupling a cascode transistor (43) between the output terminal and the current mirror.

As to claim 15, figures 1 and 2 show all limitations of the claim except for the step of limiting the input signal to less than about four times the bias current. However, as taught by equation at column 5 and at figure 3, when the input signal is relatively small, the cell approximates a square law. Therefore, the selection for the input signal to be less than about four times the bias current is seen as an obvious design expedience dependent upon particular environment of use to ensure optimal performance.

(11) Response to Argument

The Appellant argues that Hofmann does not disclose or suggest the step of limiting the input signal. The Examiner respectfully disagrees. As shown in Hofmann's figure 3, when the input signal is relatively small, i.e. Iin is in the range of –1.5 to 1.5, the cell provides a square-law, and when the input signal is relatively large, i.e. |Iin| is greater than 1.5, the cell provides a linear function. It is clear from Hofmann's graph and equation in column 5, lines 15-18, that the circuit will provide a square law function as called for in claim 1. Therefore, it would have been obvious for one having ordinary skill in the art to limit the input signal of Hofmann to be relatively small in order to provide an output function of the cell that approximates a square law.

The Appellant further argues that Hofmann does not teach the step of limiting the input signal to less than about four times the bias current. The equation in column 5 and the graph shown in figure 3 clearly shows that the operational mode of the output current is dependent on the value of the input current. For example, when the input signal is relatively small, the cell approximates a square law. It would have been an obvious matter of preference bounded by well known manufacturing constraints and ascertainable by routine experimentation and optimization to select the input signal of the cell to be less than about four times the bias current because applicant has not disclosed that the selected value is for a particular unobvious purpose, produce an unexpected result, or are otherwise critical, and it appears prima facie that the process would possess utility using another relative current ratio. Indeed, it has been held that optimization of range limitations are prima facie obvious absent a disclosure that the limitations are for a particular unobvious purpose, produce an unexpected result, or are otherwise critical. See MPEP 2144.05(II): "Generally, differences in concentration or temperature will not support the

patentability of subject matter encompassed by the prior art unless there is evidence indicating such concentration or temperature is critical. '[W]here the general conditions of a claim are disclosed in the prior art, it is not inventive to discover the optimum or workable ranges by routine experimentation.'" In re Aller, 220 F.2d 454, 105 USPQ 233, 235 (CCPA 1955). See also In re Hoeschele, 406 F.2d 1403, 160 USPQ 809 (CCPA 1969), Merck & Co. Inc. v. Biocraft Laboratories Inc., 874 F.2d 804, 10 USPQ2d 1843 (Fed. Cir.), cert. denied, 493 U.S. 975 (1989), and In re Kulling, 897 F.2d 1147, 14 USPQ2d 1056 (Fed. Cir. 1990). As set forth in MPEP 2144.05(III).

(12) Conclusion

Hofmann discloses a circuit arrangement, and a method thereof, in figures 2 and 3 and the equation in column 5, which meets all limitations of the appealed claims. As such, the rejection under 35 U.S.C. is proper and should be sustained for the reasons stated above.

Respectfully submitted,

QT
May 27, 2004

Conferees
Timothy Callahan
Chaudhuri Olik
Quan Tra

MARGER JOHNSON & MCCOLLOM PC
1030 SW MORRISON STREET
PORTLAND, OR 97205